# EXHIBIT 14

### (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 17 August 2006 (17.08.2006)

## (10) International Publication Number WO 2006/085895 A3

(51) International Patent Classification: *A61K 31/715* (2006.01) *C07H 1/00* (2006.01)

(21) International Application Number:

PCT/US2005/016229

(22) International Filing Date: 10 May 2005 (10.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/569,559 10 May 2004 (10.05.2004) US

(71) Applicants (for all designated States except US):
BIOPOLYMER ENGINEERING, INC. [US/US];
3388 Mike Collins Drive, Eagan, Minnesota 55121
(US). UNIVERSITY OF LOUISVILLE RESEARCH
FOUNDATION, INC. [US/US]; 2301 South Third Street,
Louisville, Kentucky 40208 (US).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KOURNIKAKIS, Bill [CA/CA]; 102 2nd Street, S.W., Medicine Hat, Alberta T1A 4A8 (CA). ROSS, Trunetta, Jo, Dockter [US/US]; 11739 Paramont Way, Prospect, Kentucky 40059 (US). KAREL, Steven, J. [US/US]; 1562 Park Circle, Mendota Heights, Minnesota 55118 (US). CONNERS, Daniel, K. [US/US]; 2108 Lower St. Dennis Road, St. Paul, Minnesota 55116 (US).

- (74) Agents: CARROLL, Alice, O. et al.; HAMILTON, BROOK, SMITH & REYNOLDS, P.C., 530 Virginia Road, P.O. Box 9133, Concord, Massachusetts 01742-9133 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

(88) Date of publication of the international search report: 19 October 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WHOLE GLUCAN PARTICLES IN COMBINATION WITH ANTIBIOTICS, VACCINES AND VIRAL MONOCLONAL ANTIBODIES

(57) Abstract: The present invention relates to compositions and methods of using whole glucan particles and agents. Whole glucan particles enhance the tumoricidal activity of the innate immune system by binding to the C3 complement protein receptor CR3. This binding enhances innate immune system cytotoxicity, as well as stimulating the release of activating cytokines and enhances the bodies response to the agent.



### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/16229

A. CLA IPC:	SSIFICATION OF SUBJECT MATTER A61K 31/715( 2006.01);C07H 1/00.		~	
USPC: According to	514/54,75;424/130.1,165.1,169.1;435/209,4,15,69 o International Patent Classification (IPC) or to both na		3.5.	
B. FIEL	DS SEARCHED	<u>.</u>	<del></del> .	
	ocumentation searched (classification system followed 14/54, 75; 424/130.1, 165.1, 169.1; 435/209, 4, 15, 69		2, 23.5.	
Documentat	ion searched other than minimum documentation to the	extent that such documents a	re included in the	fields searched
	ata base consulted during the international search (nam Continuation Sheet	e of data base and, where prac	eticable, search terr	ms used)
C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	ppropriate, of the relevant pas	ssages Re	elevant to claim No.
Y	US 6,369,216 B1 (PATCHEN et al) 09 April 2002 (	09.04.2002), claims 6-16 and	abstract.	1-12
Y	S 5,504,079 A (JAMAS et al) 02 April 1996 (02.04.1996), claims 1-6 and abstract.		ct.	1-12
Y	US 5,622,940 A (OSTROFF) 22 April 1997 (22.04.1997), claims 1-30 and abstract.		et.	1-12
Y	Y US 5,783,569 A (JAMAS et al) 21 July 1998 (21.07.1998), claims 1-80 and abstract.			1-12
Further	documents are listed in the continuation of Box C.	See patent family	annex.	
Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance.		date and not in conflic principle or theory un	date and not in conflict with the application but cited to understand principle or theory underlying the invention	
"E" carlier ap	plication or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone		
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination		
"O" document referring to an oral disclosure, use, exhibition or other means  "P" document published prior to the international filing date but later than the priority date claimed		being obvious to a per "&" document member of	son skilled in the art the same patent family	
Date of the actual completion of the international search		Date of mailing of the international search report		
10 July 2006 (10.07.2006)		27 JUL 2006		
Name and mailing address of the ISA/US		Authorized officer		
Mail Stop PCT, Attn: ISA/US Commissioner for Patents		Devesh Khare Juhuli force		
P.O. Box 1450 Alexandria, Virginia 22313-1450		Telephone No. 703-308-1235		
	. (571) 273-3201		/	
orm PCT/ISA	J210 (second sheet) (April 2005)		V	

	International application No.
INTERNATIONAL SEARCH REPORT	PCT/US05/16229
•	
·	
	,
and the state of t	
Continuation of B. FIELDS SEARCHED Item 3: CAS online, EAST. Search terms used: whole glucan particles; glucan and agents; to ciprofloxacin.	reatment of influence bectarial and viral infaction; and
CAS online, EAS1. Search terms used: whole glucan particles; glucan and agents, if	realment of influenza, bacterial and viral infection, and
cipionoxacm.	
	i